LIQUID ARGON MEASUREMENT STATUS REPORT

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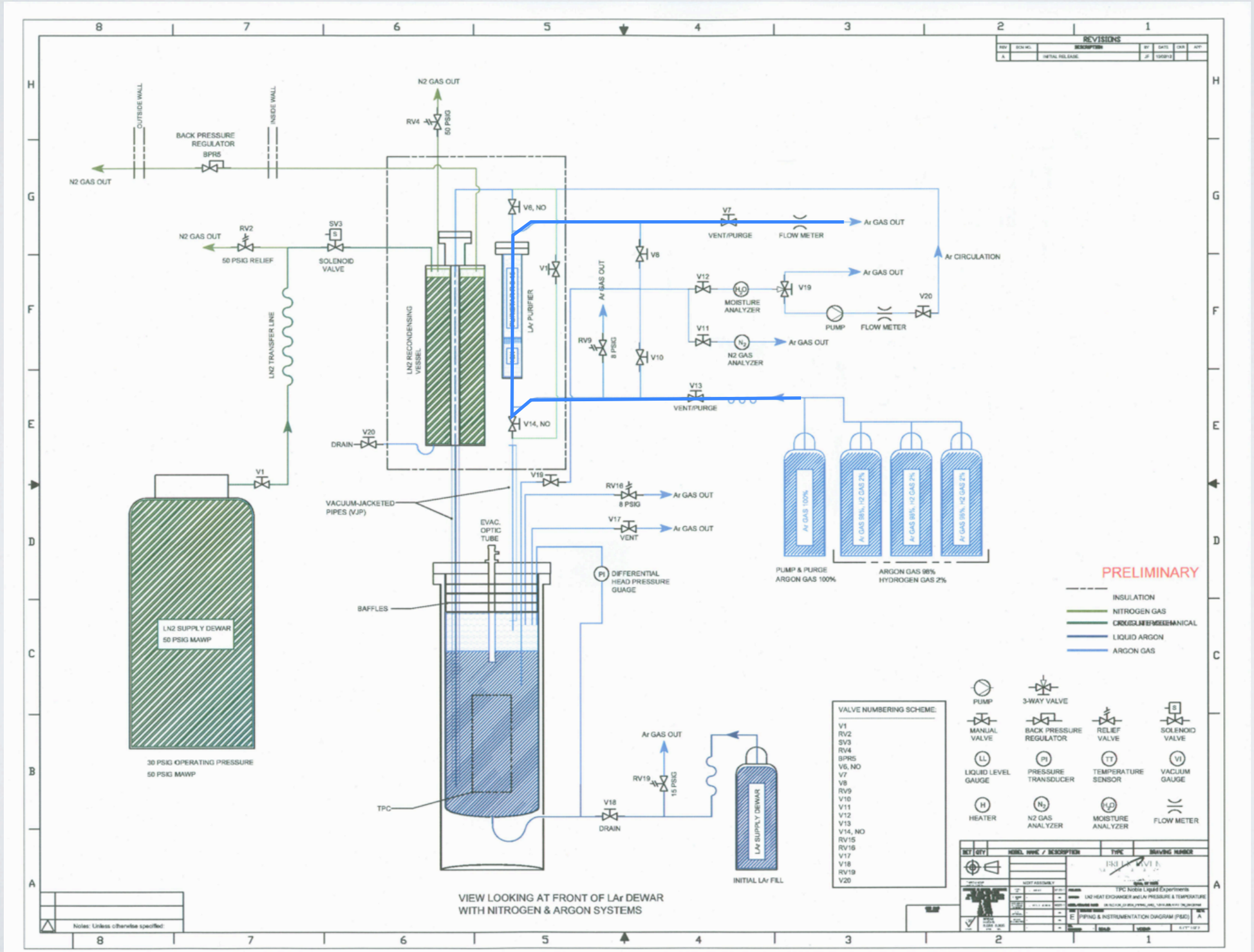
08/27/2013

Outlines:

1. Introduction: Status
2. Warm up and Purifier Re-activation
3. Summary

Introduction: Status

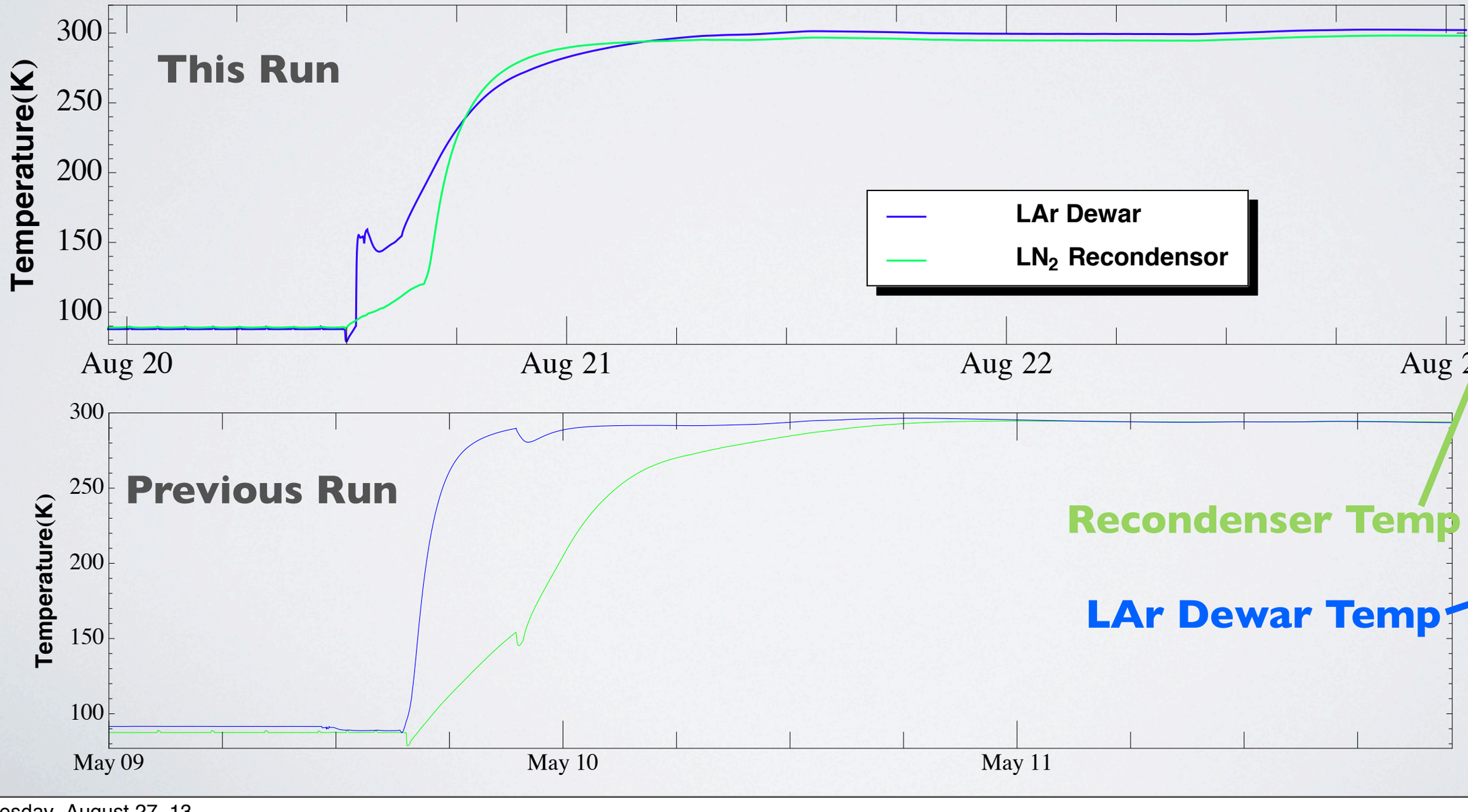
1. The system was warmed up on 08.21.
2. Purifier re-activation was processed from 08.21 to 08.25.
3. Multiple preamps were prepared for the measurement.



VIEW LOOKING AT FRONT OF LAr DEWAR
WITH NITROGEN & ARGON SYSTEMS

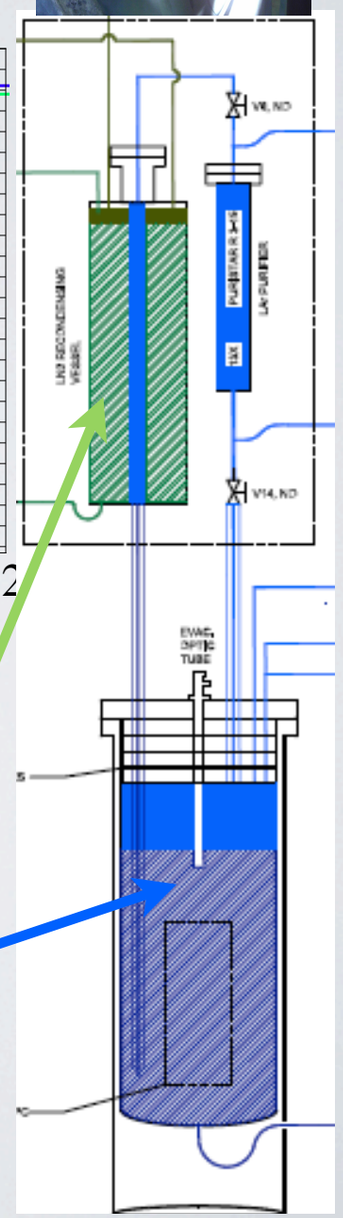
System Warm:

1. The warm up process is accelerated by flow N_2 gas into the recondenser.
2. Water condensation was observed on the main dewar during warm up as being observed in previous operation.



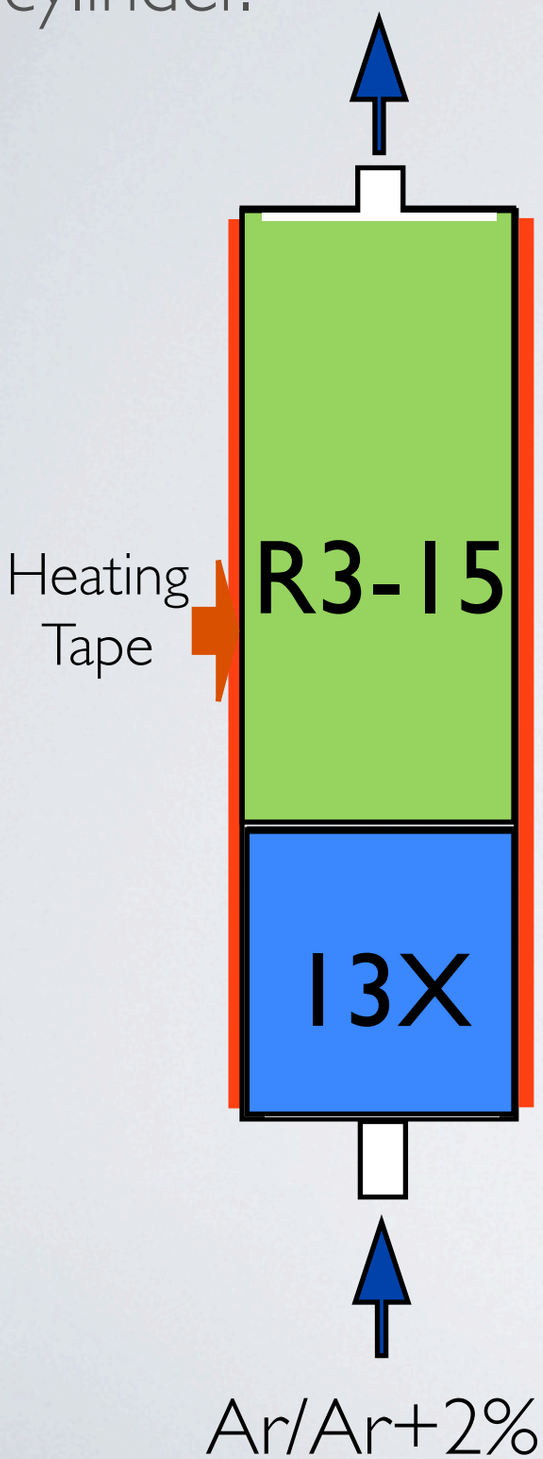
Recondenser Temp

LAr Dewar Temp



Purifier Components

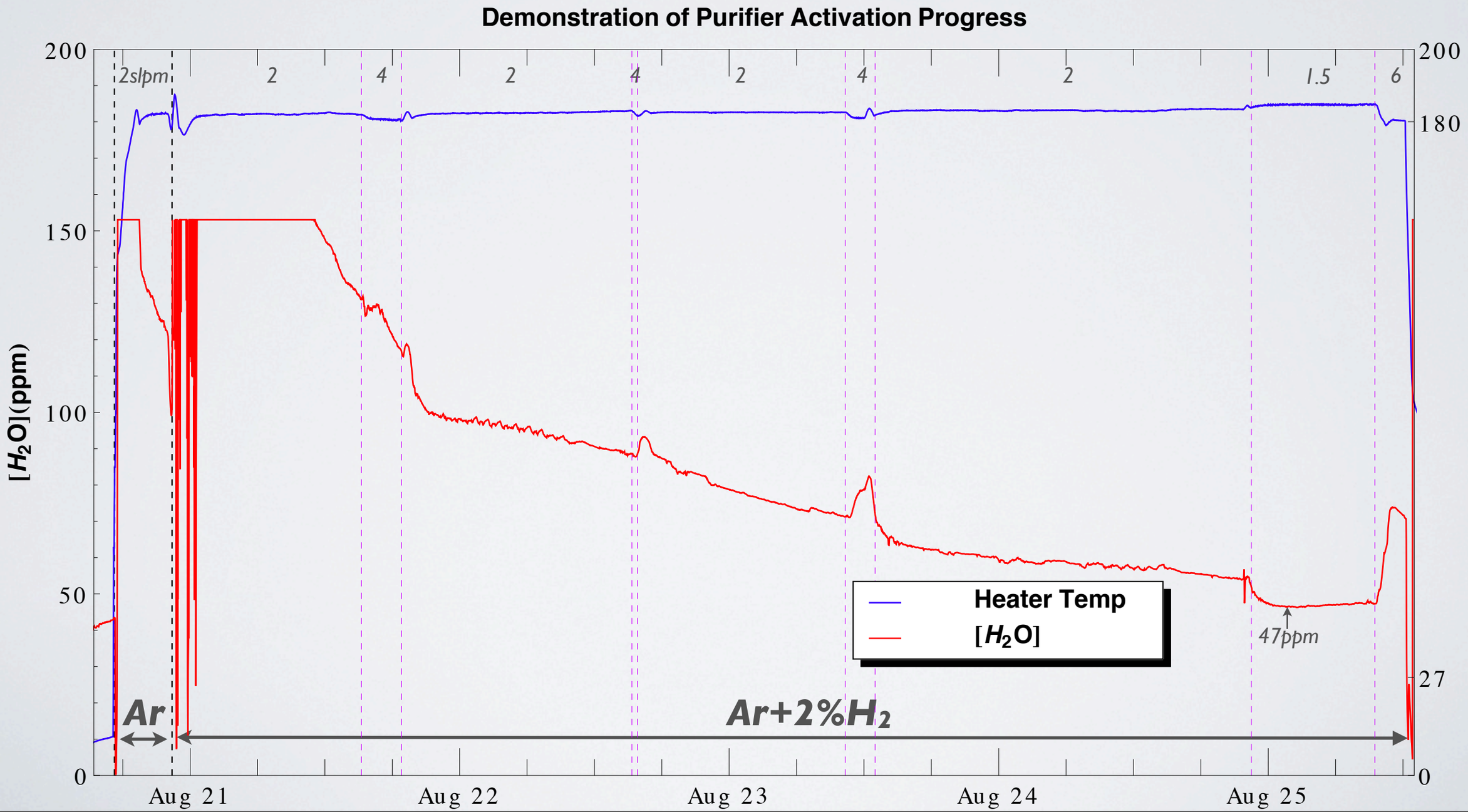
1. The purifier is composed by two parts: H_2O absorber and O_2 absorber.
2. Re-activation is done by flowing Ar/Ar+H2 mixture while heating the purifier cylinder.



	Regenerating Temp
O_2 absorber : CuO, ZnO	175-225C°
Molecular Sieves(H_2O absorber): Na_2O-Al_2O_3-mSiO_2-nH_2O	200-300C°

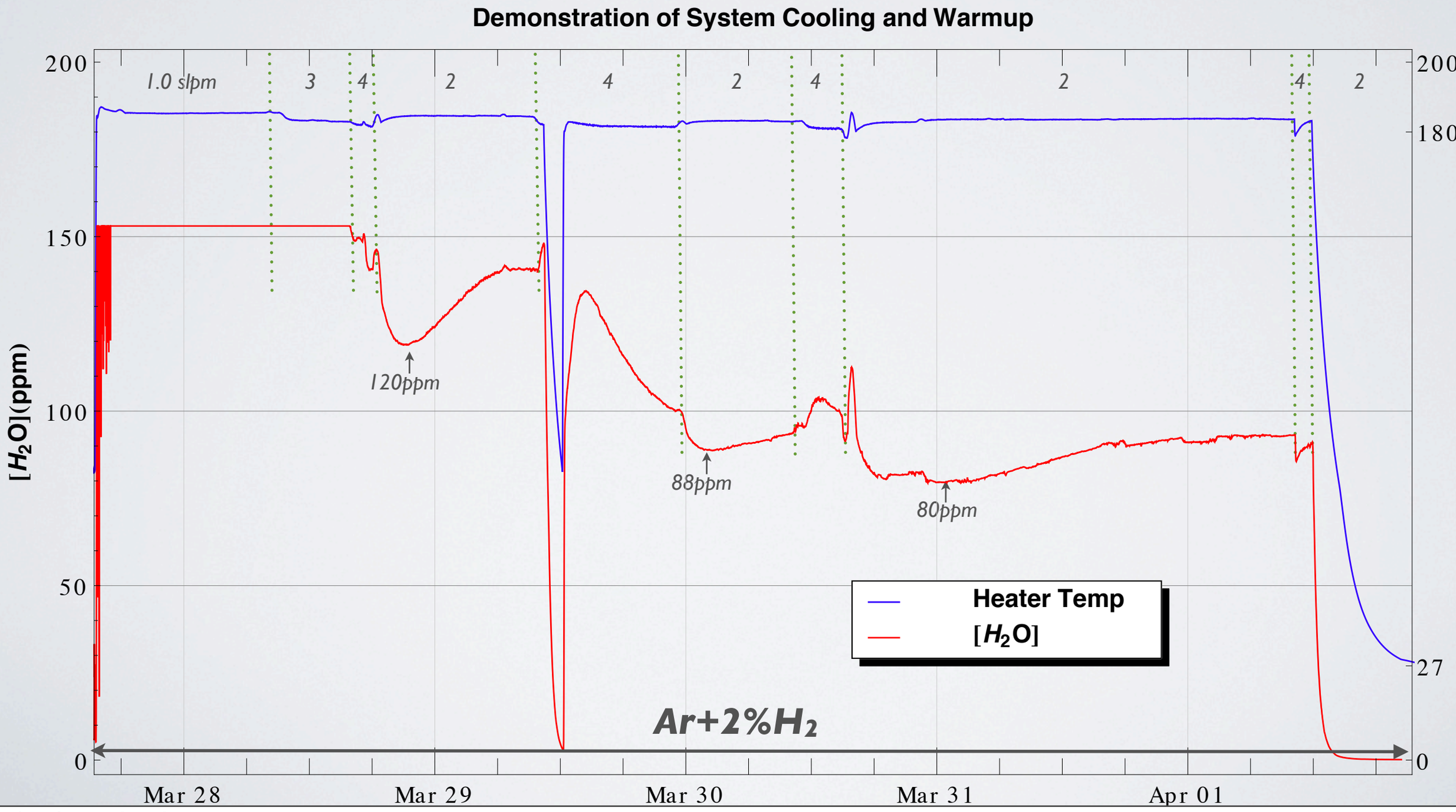
Purifier re-activation process: This Run

1. The re-activation includes: moisture reduction, Hydrogen reduction by flowing Ar/Ar+H2 mixture while heating the purifier cylinder.
2. It was processed strictly following the SOP and manufacturer's instruction this time.
3. The re-activation temperature could be set up to 200-225C°(194 C° now)



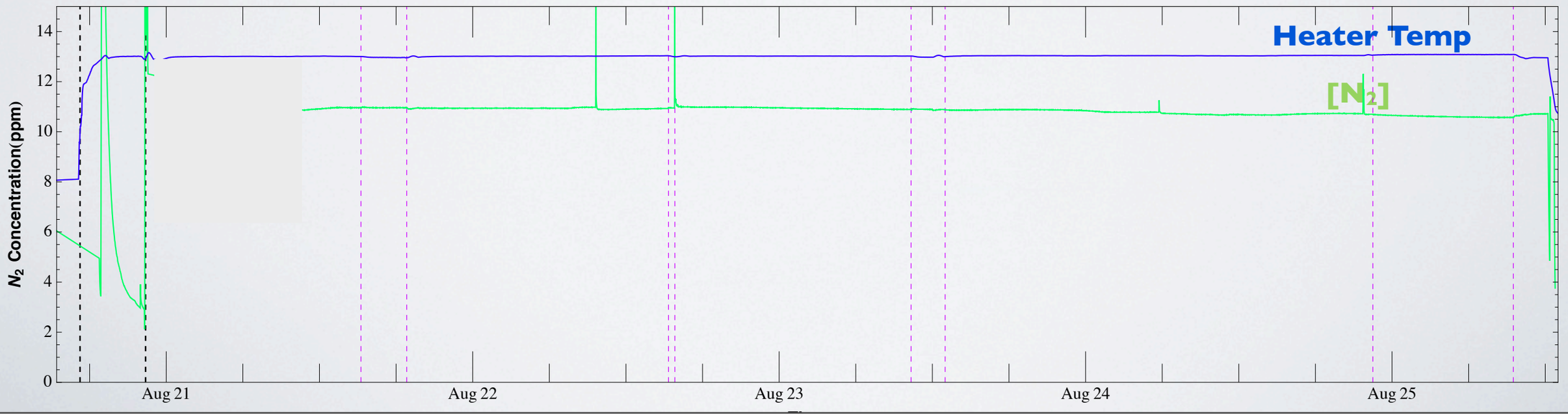
Purifier re-activation process: Previous Run

1. Previous run was not processed strictly following the SOP and manufacturer's instruction: no moisture reduction before hydrogen reduction.
2. The end moisture level was higher than this run.



Purifier re-activation process: This Run

1. [N_2] was also recorded this time.
2. [N_2] shows temp, [H_2O] and flow rate dependence.



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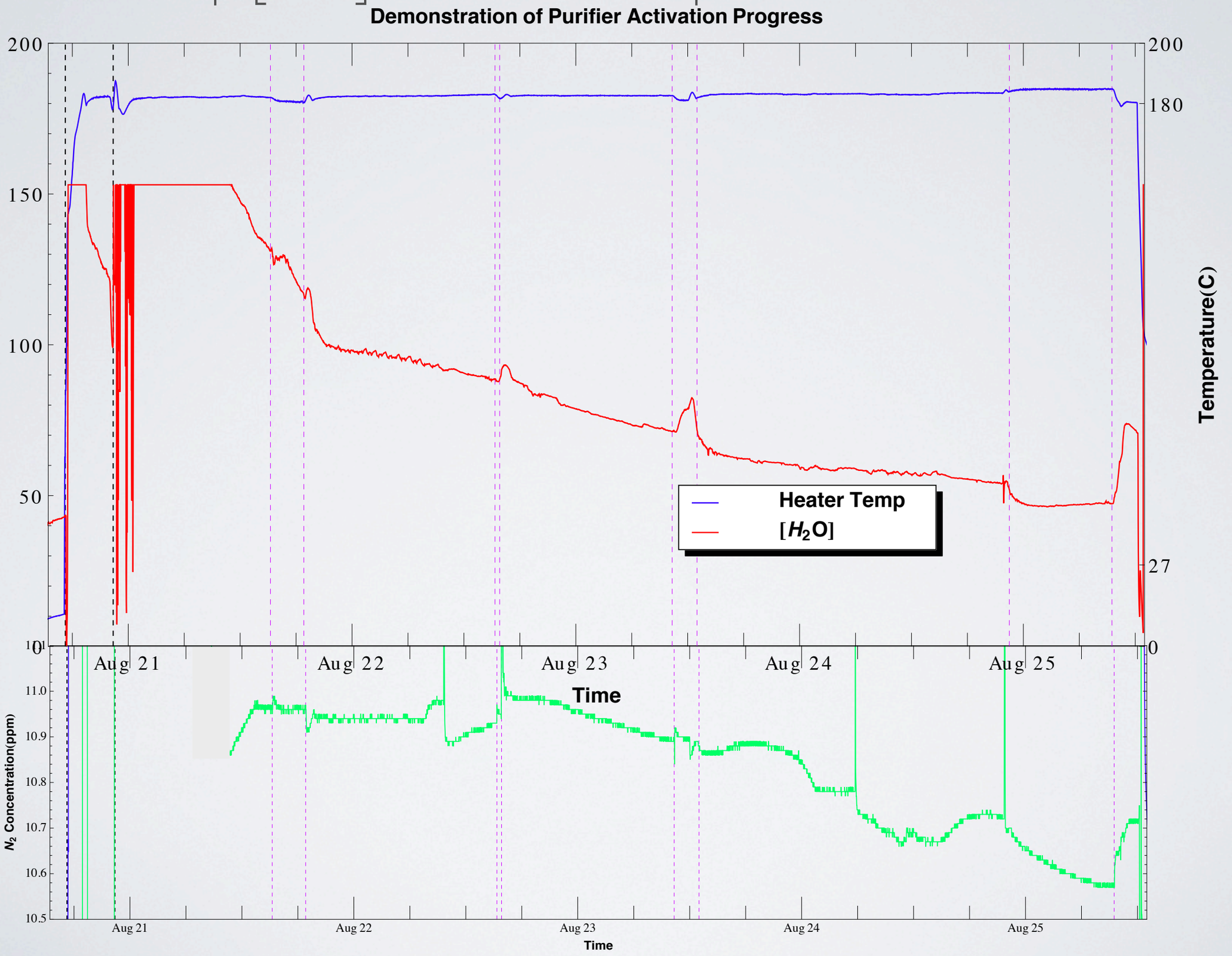

Summary

-The purifier has been activated and ready to start.

-The re-activation could be done with higher heating temperature.

-The measurement can be started once the electronics modification is done.